CLAIMS

1. A method for forming an image of an organ, the method comprising illuminating an organ by radiation emitted from a hand-held camera unit (200), and forming an image in an electronic form of the organ by means of a camera (406, 416) of the camera unit, **characterized** by

emitting optical radiation toward the organ via at least one exit aperture (412 to 414) of the camera unit (200) and, via an entrance aperture (406) of the camera unit, forming an image of the organ by means of the optical radiation supplied from the organ, and emitting and receiving the optical radiation via separate entrance aperture (406) and exit apertures (412 to 414) whose optical axes differ from each other.

2. A method as claimed in claim 1, **characterized** in that the optical axes of the exit aperture (412 to 414) and the entrance aperture (406) are parallel and unidirectional.

3. A method as claimed in claim 1, **characterized** in that the camera unit (200) comprises a nose part (408, 480, 490) which, while forming an image of the organ, is brought close to the organ of which an image is to be formed, the nose part (408, 480, 490) comprising at least one exit aperture (412 to 414) and entrance aperture (406).

4. A method as claimed in claim 1, **characterized** by the organ of which an image is to be formed being an eye (202), whereby the optical radiation is directed only at a portion of the pupil (302) in accordance with the optical axis of the exit aperture (412 to 414); and forming an image of the eye over the portion (308) of the pupil (302) at which no optical radiation is directed, according to the optical radiation of the entrance aperture (406).

5. A method as claimed in claim 4, **characterized** by the optical radiation being infrared radiation and visible light radiation; illuminating the eye such that a radiation pattern (304) of the infrared radiation is directed at the pupil (302) of the eye symmetrically with respect to a radiation pattern (306) of the visible light.

6. A method as claimed in claim 4, **characterized** by focusing the optical radiation onto the surface of the eye.

7. A method as claimed in claim 1, **characterized** by the organ of which an image is to be formed being an ear, whereby the camera unit (200) uses a nose part (480) suitable for examining the ear;

dispersing, using the nose part (480) suitable for examining the ear, the optical radiation directed at the area of which an image is to be formed such that the optical radiation has an even power distribution.

8. A method as claimed in claim 1, **characterized** in that the organ of which an image is to be formed is skin, whereby the optical radiation is directed at the area of which an image is to be formed.

9. A method as claimed in claim 1, **characterized** in that the camera unit (200) and a power source unit (500) are interconnected by a cable (502), and electric power is fed from the power source unit (500) to the camera unit (200) through the cable (502).

10. A method as claimed in claim 1, **characterized** by transferring images produced by the camera unit (200) to a data processing device (600); performing, in the data processing device (600), image processing operations on the images produced by the camera unit (200), and displaying the images visually.

11. A system for forming an image of an organ, the system comprising at least one optical radiation source (402 to 404) for illuminating an organ, and a hand-held camera unit (200) comprising a camera (406, 416) for forming an image in an electronic form of an organ illuminated by at least one optical radiation source (402 to 404), **characterized** in that the camera unit (200) comprises

at least one exit aperture (412 to 414) via which the radiation of the optical radiation source (402 to 404) is emitted toward the organ, and at least one entrance aperture (410) via which the optical radiation supplied from the organ is received by the camera unit (200), each exit aperture (412 to 414) and entrance aperture (410) being separate apertures with respect to each other whose optical axes differ from each other.

12. A system as claimed in claim 11, **characterized** in that the optical axes of the exit apertures (412 to 414) and the entrance apertures (410) are parallel and unidirectional.

13. A system as claimed in claim 11, **characterized** in that the camera unit (200) comprises a nose part (408, 480, 490) which, while forming an image of the organ, is brought close to the organ of which an image is to be formed, the nose part (408, 480, 490) comprising at least one exit aperture (412 to 414) and entrance aperture (410).

14. A system as claimed in claim 11, **characterized** in that the organ of which an image is to be formed is an eye (202); the camera unit (200) is arranged to direct the optical radiation at only a portion of the pupil (302) in accordance with the optical axis of each exit aperture (412 to 414); the camera unit (200) is arranged to form an image of the eye over the portion (308) of the pupil (302) at which no optical radiation is directed, according to the optical axis of each entrance aperture (410).

15. A system as claimed in claim 14, **characterized** in that the system comprises an infrared radiation source (402) and a visible light radiation source (404); the camera unit (200) is arranged to illuminate the eye such that a radiation pattern (304) of the infrared radiation is directed at the pupil (302) of the eye symmetrically with respect to a radiation pattern (306) of the visible light.

16. A system as claimed in claim 14, **characterized** in that the camera unit (200) is arranged to focus the optical radiation onto the surface of the eye.

17. A system as claimed in claim 11, **characterized** in that the organ of which an image is to be formed is an ear; the camera unit (200) comprises a nose part (480) suitable for examining the ear, arranged to disperse the optical radiation directed at the area of which an image is to be formed such that the optical radiation has an even power distribution.

18. A system as claimed in claim 11, **characterized** in that the organ of which an image is to be formed is skin; the camera unit (200) is arranged to direct the optical radiation at the area of which an image is to be formed.

19. A system as claimed in claim 11, **characterized** in that the system further comprises a power source unit (500) and a cable (502) to interconnect the camera unit (200) and the power source unit (500); the power source unit (500) is arranged to feed electric power to the camera unit (200) through the cable (502).

20. A system as claimed in claim 11, **characterized** in that the system also comprises a data processing device (600) to which the camera unit (200) is arranged to transfer images it has produced; an image processing device (600) is arranged to perform image processing operations on the images of the camera unit (200), and to display the images visually.